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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,240	08/01/2001	Pierre Roo	MP0039CIP	4035

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EXAMINER	
YUN, EUGENE	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/920,240	ROO ET AL.	
	Examiner	Art Unit	
	Eugene Yun	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53,55-90 and 92-110* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53,55-90 and 92-110* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/19/2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 12, 24, 37, 48, 61, 74, 85, and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg (US 5,596,439) and He (US 6,870,881) and further in view of Rabenko et al. (US 6,765,931).

Referring to Claim 1, Dankberg teaches an electrical circuit in a communications channel comprising:

A first sub circuit having a first input for a composite signal, the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5);

A second input for a replica transmission signal (see input from Source Information Signal in fig. 5); and

an output for a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26).

Dankberg does not teach a third input which receives a baseline correction current wherein the composite signal, the replica transmission signal, and the baseline correction current are connected together at a common node of the first sub-circuit. He teaches a third input which receives a baseline correction current (see 12 of fig. 9) wherein the composite signal, the replica transmission signal, and the baseline correction current are connected together at a common node of the first sub-circuit (see 22 of fig. 9 which receives signals from echo canceller 10 and baseline correction circuit 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of He to said method of Dankberg in order to reduce complexity in an echo cancellation circuit.

The combination of Dankberg and He does not teach a second sub circuit for controlling an analog baseline correction current, so that the magnitude of the composite signal does not exceed a predetermined value of an operating parameter of the electrical circuit. Rabenko teaches a third input which receives an analog baseline correction current (see 300 before 302 in fig. 8) and a second sub circuit for controlling the analog baseline correction current, so that the magnitude of the composite signal does not exceed a predetermined value of an operating parameter of the electrical circuit (see col. 20, lines 51-65). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to provide the teachings of Rabenko to the modified method of Dankberg and He in order for the circuit to better adapt to outside conditions.

Claims 37 and 74 have similar limitations to claim 1.

Referring to Claim 12, Dankberg teaches an electrical circuit in a communications channel comprising:

an active resistive summer which produces a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26), the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5).

Dankberg does not teach a baseline correction current wherein the composite signal, the replica transmission signal, and an output of the baseline correction current are connected together at a common node of the active resistive summing circuit. He teaches a baseline correction current (see 12 of fig. 9) wherein the composite signal, the replica transmission signal, and an output of the baseline correction current are connected together at a common node of the active resistive summing circuit (see 22 of fig. 9 which receives signals from echo canceller 10 and baseline correction circuit 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of He to said method of Dankberg in order to reduce complexity in an echo cancellation circuit.

The combination of Dankberg and He does not teach an analog baseline correction current control circuit which controls the magnitude of the composite signal.

Rabenko teaches an analog baseline correction current control circuit (see 300 before 302 in fig. 8) which controls the magnitude of the composite signal (see col. 20, lines 51-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Rabenko to the modified method of Dankberg and He in order for the circuit to better adapt to outside conditions.

Claims 48 and 85 have similar limitations as claim 12.

Referring to Claim 24, Dankberg teaches an electrical circuit in a communications channel comprising:

an active resistive summer having a first input for a composite signal, the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5), a second input for a replica transmission signal (see input from Source Information Signal in fig. 5), and an output for a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26).

Dankberg does not teach a third input which receives a baseline correction current wherein the composite signal, the replica transmission signal, and the baseline correction current are connected together at a common node of the active resistive summer. He teaches a third input which receives a baseline correction current (see 12 of fig. 9) wherein the composite signal, the replica transmission signal, and the baseline correction current are connected together at a common node of the active resistive summer (see 22 of fig. 9 which receives signals from echo canceller 10 and baseline correction circuit 12). Therefore, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to provide the teachings of He to said method of Dankberg in order to reduce complexity in an echo cancellation circuit.

The combination of Dankberg and He does not teach an analog baseline correction current control circuit which controls the magnitude of the analog baseline correction current to thereby control the magnitude of the composite signal. Rabenko teaches a third input which receives an analog baseline correction current (see 300 before 302 in fig. 8) and a baseline correction current control circuit which controls the magnitude of the analog baseline correction current to thereby control the magnitude of the composite signal (see col. 20, lines 51-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Rabenko to the modified method of Dankberg and He in order for the circuit to better adapt to outside conditions.

Clams 61 and 98 have similar limitations as claim 24.

4. Claims 2-11, 13-23, 25-36, 38-47, 49-53, 55-60, 62-73, 75-84, 86-90, 92-97, and 99-110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg, He, and Rabenko and further in view of Patel (US 5,175,764).

Referring to Claims 2, 13, 25, 38, 49, 62, 75, 86, and 99, the combination of Dankberg, He, and Rabenko does not teach a power supply voltage source of a predetermined magnitude, wherein the operating parameter is the predetermined magnitude of the power supply voltage source. Patel teaches a power supply voltage source of a predetermined magnitude, wherein the operating parameter is the

predetermined magnitude of the power supply voltage source (see col. 6, lines 50-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to the modified device of Dankberg, He, and Rabenko in order to better prevent the use of excessive amounts of power.

Referring to Claims 3, 15, 28, 39, 52, 65, 76, 89, and 102, Patel also teaches a common-mode feedback circuit (see col. 10, lines 60-65).

Referring to Claims 4, 16, 29, 40, 53, 66, 77, 90, and 103, Patel also teaches an operational amplifier (see col. 7, lines 49-51).

Referring to Claims 5, 17, 30, 41, 67, 78, and 104, Rabenko also teaches the operational amplifier having a first input which receives a first differential component of the composite signal, a second input which receives a second differential component of the composite signal, a third input which receives a common-mode voltage signal (see col. 24, lines 43-48), and an output which provides a baseline correction current control signal (see col. 20, lines 51-65).

Referring to Claims 6, 18, 31, 42, 55, 68, 79, 92, and 105, Patel also teaches the common-mode feedback circuit including a pair of transistors, each transistor having a respective input and wherein the output of the operational amplifier is coupled to the respective input of each of the transistors (see col. 6, lines 15-21).

Referring to Claims 7, 19, 32, 43, 56, 69, 80, 93, and 106, Patel also teaches the second sub-circuit including a current source (see col. 6, lines 18-22).

Referring to Claims 8, 20, 33, 44, 57, 70, 81, 94, and 107, Rabenko also teaches the current source providing a constant baseline correction current control signal (see col. 20, lines 51-65).

Referring to Claims 9, 21, 34, 45, 58, 71, 82, 95, and 108, Patel also teaches a resistor divider (see col. 6, lines 46-50).

Referring to Claims 10, 22, 35, 46, 59, 72, 83, 96, and 109, Patel also teaches the resistor divider comprising a plurality of resistors, each of the resistors having a respective characteristic resistance (see col. 6, lines 46-50).

Referring to Claims 11, 23, 36, 47, 60, 73, 84, 97, and 110, Rabenko also teaches the resistor divider providing a baseline correction current control signal that is related to the respective resistances of each of the resistors (see col. 24, lines 34-42).

Referring to Claims 14, 26, 50, 63, 87, and 100, Rabenko also teaches the analog baseline correction current control circuit controlling the magnitude of the composite signal to be less than the magnitude of the power supply voltage source (see col. 20, lines 51-65).

Referring to Claims 27, 51, 64, 88, and 101, Rabenko also teaches the magnitude of the analog baseline correction current control circuit controlling the magnitude of the composite signal to be equal to the magnitude of the power supply voltage source (see col. 20, lines 51-65).

Response to Arguments

5. Applicant's arguments with respect to claims 1-53, 55-90, and 92-110 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eugene Yun
Examiner
Art Unit 2618

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER